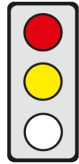


KEY ISSUES

Objective of the Communication: CO₂ emissions and air pollution caused by transport are to be reduced.

Affected parties: All citizens and businesses, primarily in the transport sector and vehicle construction.



Pro: The reduction of CO₂ emissions and air pollution caused by transport is appropriate.

Contra: (1) The measures proposed by the European Commission are largely unsuitable for reducing CO₂ emissions and air pollution caused by transport in a manner which is "effective and ensures technology neutrality".

(2) Tightening CO₂-limits for cars and vans quickly comes up against technical limitations and gives rise to high avoidance costs. CO₂ standards for lorries should only apply – if at all – to the whole vehicle.

(3) The existing Emissions Trading System EU ETS should be extended to include the transport sector.

CONTENT

Title

Communication COM(2016) 501 of 20 July 2016: A European **Strategy for Low-Emission Mobility**

Brief Summary

► Context and objectives

- Transport in the EU
 - produces almost a quarter of the CO₂ emissions and
 - is the main cause of air pollution in cities.
- In relation to transport, the Commission wants (p. 2)
 - CO₂ emissions, which damage the climate, to be reduced by at least 60% by 2050 as compared with 1990 levels and be "firmly on the path towards zero" ("decarbonisation") and
 - emissions of air pollutants, which are harmful to health – e.g. nitrogen oxide, particulate matter – "to be drastically reduced without delay".
- The Commission wants to achieve "low-emission mobility" "cost effectively whilst ensuring technology neutrality" (p. 2).
- In an Action Plan, it therefore proposes possible legislative and non-legislative measures for the various modes of transport – road, rail, air, inland waterways and shipping.
 - The proposals are partly based on existing measures [see Commission Document SWD(2016) 244, p. 8–22].
 - The focus of the measures is road transport as the main cause of CO₂ emissions and emissions of air pollutants.
- The Commission expects a positive impact on employment and growth as a result of investment (p. 2).

► More efficient use of transport infrastructure

- In order to achieve "fair and efficient" pricing in transport (p. 3-4), the Commission is calling on the Member States to "move towards" distance-based road charging systems (tolls).
 - Road users will contribute to financing transport infrastructure ("user-pays principle").
 - The additional costs of road transport ("externalities") arising from CO₂ emissions and emissions of air pollutants will be borne ("internalised") by the polluters ("polluter pays principle").
 - The Commission intends to propose changes to the Eurovignette Directive (1999/62/EC) and the European Electronic Tolling Service Directive (2004/52/EC).
- The Commission is developing a "master plan" for Co-operative Intelligent Transport Systems (C-ITS), enabling direct communication between vehicles, road-side traffic management technology and traffic management centres and thereby "seamless door-to-door mobility" and "integrated logistics" (p. 3).
- The shift to modes of transport with low emissions – inland waterways, short-sea shipping and rail – will be supported by interlinking the different modes of transport ("multi-modal integration").
 - The Commission intends to propose a Regulation on streamlining measures for swifter implementation of the "projects of common interest" on the Trans European Transport Network (TENT, see [cepPolicyBrief](#)).
 - The Commission intends to propose changes to the Combined Transport Directive (92/106/EEC) and the Regulation on a rail freight network [(EU) No. 913/2010, see [cepPolicyBrief](#)].

► **Increased use of low-emission alternative fuels**

- The Commission is focusing on a "gradual phase out" of food-based biofuels and their replacement by "advanced" biofuels, for which it is examining the possibility of initial financing (p. 5).
- The roll-out of an EU-wide refuelling, recharging and maintenance infrastructure – financially supported by the EU – for vehicles driven by electricity, natural gas and hydrogen, forms the subject matter of the Alternative Fuels Directive (2014/94/EU, see [cepPolicyBrief](#)).
- The European standardisation organisations will develop EU-wide standards for induction charging, batteries and charging plugs for electric buses and motorbikes.
- The Commission intends to develop a methodology for price comparison between different fuel types.

► **Vehicle testing methods**

- A new vehicle type-approval Regulation COM(2016) 31, see [cepPolicyBrief](#) will strengthen independent testing, market surveillance and enforcement of EU law.
- The new World Harmonised Light Vehicle Test Procedure (WLTP) will provide a basis for standards of carbon dioxide and fuel consumption for cars and vans as from 2020.

► **Post-2020 strategy for cars and vans**

- CO₂ emissions from conventional combustion engines will be reduced and the proportion of low-emission and zero-emission vehicles increased by way of incentives on both the supply-side and demand-side.
- The Commission intends to propose changes to the Regulations on CO₂ emissions for new cars [(EC) No. 443/2009, see [cepPolicyBrief](#)] and vans [(EU) No. 510/2011, see [cepPolicyBrief](#)] and is also considering tightening the CO₂-limits post-2020.
 - The Commission wants to examine "ways to incentivise low – and zero-emission vehicles" – e.g. targets (p. 7).
 - The Commission intends to propose changes to the Car Labelling Directive (1999/94/EC) to improve consumer information by way of labelling and to indicate the advantages of alternative fuels.

► **Post-2020 strategy for heavy duty vehicles**

- The monitoring of CO₂ emissions from lorries, buses and coaches ("heavy duty vehicles") will give rise to greater transparency and facilitate differentiation in road user charging.
- The Commission intends to propose rules on the certification of the CO₂ emissions and fuel consumption of heavy duty vehicles based on the simulation instrument "Vehicle Energy Consumption Calculation Tool" (VECTO, see [cepPolicyBrief](#)).
- The Commission intends to propose a monitoring and reporting scheme for the CO₂ emissions and fuel consumption of heavy duty vehicles based on the certified data.
- The Commission is currently examining options for CO₂-limits on heavy duty vehicles – "whether for engines only, or for the whole vehicle" (p. 9) –, for which it is using inter alia VECTO data.

► **Additional strategies for low-emission mobility**

- As part of the Energy Union Strategy [COM(2015) 85, see [cepPolicyBrief](#)] the EU wants to integrate electro-mobility into the electricity market and redesign the market (see [cepPolicyBrief](#)), by
 - encouraging charging at times of cheap electricity – when demand is low or supply high,
 - reducing barriers to the self-generation, storage and consumption of renewable electricity and facilitating the use of electricity for charging, generated from the consumer's own solar panels.
- EU investment funds will be geared towards supporting "higher efficiency of the transport system in a technology neutral way" and low-emission mobility (p. 13).
- The EU supports global initiatives on international transport such as
 - the introduction of a "global market-based mechanism" to reduce CO₂ emissions in the aviation sector [see [cepPolicyBrief](#)] by the International Civil Aviation Organisation (ICAO) and
 - a CO₂ reduction target for shipping by the International Maritime Organisation (IMO).

Policy Context

In 2011, the Commission set out its vision for a "competitive and resource efficient transport system up to 2050" in its "Transport White Paper" [COM(2011) 144, see [cepPolicyBrief](#) and [cepInput No. 19/2015](#)].

In 2013, the EU adopted the Regulation on guidelines for the development of the trans-European transport network (TEN-T) [(EU) No. 1315/2013]. The TEN-T will be an integrated transport network encompassing all modes of transport and ensuring the interoperability of transport networks both between the Member States and with EU neighbours.

In order to comply with obligations under the UN Climate Change Agreement concluded in Paris (see [cepPolicyBrief](#)), the transport sector will also make a contribution to CO₂ reduction. Since transport is largely outside the EU emissions trading system (EU ETS), other instruments – mainly at Member State level – are used. In this Communication, the Commission clarifies its vision for a sustainable transport system as set out in its "Transport White Paper" [COM(2011) 144].

Options for Influencing the Political Process

| | |
|--------------------------|--|
| Directorates General: | DG Transport (leading) |
| Consultation procedures: | (1) Revision of Regulations (EU) No 443/2009 and (EU) No 510/2011 setting CO ₂ emission performance standards for light duty vehicles: http://ec.europa.eu/clima/consultations/articles/0030_en.htm ; (2) Preparation of legislation on monitoring / reporting of Heavy-Duty Vehicle fuel consumption and CO ₂ emissions: http://ec.europa.eu/clima/consultations/articles/0031_en.htm All citizens have until 28 October 2016 to express their opinion. |

ASSESSMENT

Economic Impact Assessment

Ordoliberal Assessment

The reduction of CO₂ emissions and air pollutants caused by transport is appropriate for protecting the climate and controlling air pollution.

The Commission's proposed measures are however largely unsuitable for reducing CO₂ emissions and air pollution caused by transport, in a manner which is "cost effective and ensures technology neutrality", as expressly stipulated by the Commission. The 60% CO₂ reduction target for the transport sector is very ambitious and may lead to a heavy cost burden.

In principle, it should be left up to market forces to determine in which sectors emissions reduction can be achieved at the lowest possible cost [see [cepPolicyBrief](#) on the Transport White Paper COM(2011) 144]. In this respect, it is crucial that the internalisation – even if only approximate – of external costs should give rise to prices for all modes of transport which reflect the commercial, social and ecological costs. In addition, for ordoliberal reasons, orders and prohibitions should only be used if market-based instruments for achieving a target are unavailable.

With the exception of a distance and emissions based toll, however, market-based instruments for internalising external costs are lacking. And even a distance and emissions based toll has disadvantages. Although, by comparison with the time-based vignette, it increases the travel costs per kilometre and thus prevents technical CO₂ savings from being cancelled out by the "rebound effect", i.e. more mileage, road-use charges – unlike higher fuel prices – do not produce an incentive for more energy-efficient modes of driving which also save CO₂ emissions. Tolls, restricted to arterial routes, risk causing substantial diversionary traffic with negative consequences for local residents and the environment, and traffic will switch from the relative safety of the motorways onto less safe routes thereby increasing the risk of serious and fatal accidents. The blanket imposition of tolls will however result in detailed movement profiles of car drivers. It should certainly therefore be accompanied by effective data protection.

Alternatively, the inclusion of transport in **the existing Emissions Trading System EU ETS** – not considered by the Commission – provides a market-based instrument for internalising external costs. Within the EU ETS, the specified reduction of CO₂ emissions can be achieved efficiently, i.e. at the lowest cost [Communication COM(2009) 279, see [cepPolicyBrief](#)]. The overall number of emissions rights ("allowances") available EU-wide is limited ("cap") and gradually reduced so that CO₂ emissions EU-wide can thus be effectively reduced. Transport has already been partially integrated into the EU ETS because electricity consumption by trains and electric cars as well as CO₂ emissions from internal European flights are subject to the EU ETS. Looking ahead, the EU-ETS **should, for reasons of efficiency, be extended to the whole transport sector** – as well as to other sectors that are not currently included.

"Upstream emissions trading" provides a practicable approach to road transport as it is geared towards the first level of trading, i.e. refineries and importers of fossil fuels (see [ceplnput No. 05/2015](#), p. 8). The cost of allowances is then included in the fuel prices. Even with an appropriate increase in the quantity of allowances, the inclusion of transport in the existing EU ETS will, in the medium term, lead to higher allowance prices as the "cap" is reduced. Insofar as the marginal costs of CO₂ avoidance in the existing ETS sectors are lower, refineries and importers will buy the allowances necessary for their fuel sales. CO₂ reductions will then take place mainly in those sectors where it is cheaper. As far as climate protection is concerned, this is efficient because it is generally irrelevant for the climate where CO₂ savings are made.

As an interim solution, until a global and cross-sectoral emissions trading system has been set up, a transport-specific ETS not linked to the EU ETS is possible. Savings of CO₂ would then have to take place in the transport sector because it would not be possible to buy allowances from other sectors. This is a double-edged solution however. On the one hand, it makes carbon-leakage in the EU ETS less likely (see [ceplnput No. 04/2016](#)), i.e. the relocation of production and the accompanying CO₂ emissions from the EU to third countries, and facilitates a cost-effective reduction in CO₂ and pollutants within the transport sector. On the other hand, it is inefficient from a macro-economic point of view due to the different marginal costs of CO₂ avoidance in the two trading systems.

Promoting intelligent transport systems such as C-ITS to support seamless house-to-house mobility, integrated logistics and multi-modality, allows various modes of transport to be interlinked on the basis of information technology. This makes it easier for transport users to use the different modes of transport more efficiently via combined transport. But this too requires effective data protection.

Reducing market barriers to alternative low-emission fuels in the transport sector is effective especially because the potential for savings with fossil-fuel-based engines is limited. In the case of start-up financing for "advanced" bio-fuels and funding for a Europe-wide refuelling, recharging and maintenance infrastructure for vehicles powered by electricity, natural gas and hydrogen, there is a risk of bad investments and hasty decisions on technology strategy. EU standards for induction charging, batteries, and charging plugs for electric buses and motorbikes facilitate the changeover to electro-mobility. Developing a methodology for price comparison between the different fuel types and better labelling of fuel consumption can provide consumers with transparent information relevant to the buying decision in favour of low-emission vehicles.

Improving the test procedure for CO₂ emissions from vehicles is appropriate for monitoring and implementing the applicable rules. The planned market surveillance arising from type approval and the World Harmonised Light Vehicle Test Procedure may ensure that new cars comply with the relevant requirements in real operation and not just on paper.

Further **tightening the CO₂-limits for cars and vans quickly comes up against technical limitations and gives rise to high avoidance costs** and CO₂ targets for new vehicles do not provide any guarantee that the CO₂ emissions from road transport will be reduced to the desired degree. Although such CO₂-limits do provide an incentive to build and sell vehicles which produce less CO₂ per kilometre, if – as the Commission itself expects [Inception Impact Assessment: Revision of Regulations (EU) No. 443/2009 and (EU) No. 510/2011 of 20 July 2016, p. 3] – the overall operating costs of vehicles fall as a result of more efficient fuels, mileage will probably increase, so it is not certain that CO₂ emissions will be reduced as expected. **Upstream emissions trading in transport is therefore preferable to CO₂-limits.** A higher price for fuel due to the allowance costs increases the competitive pressure on the vehicle manufacturers to increase fuel efficiency with the corresponding CO₂ reductions. In addition, higher fuel costs counteract potential savings in operating costs due to gains in efficiency. This is crucial as it avoids the rebound effect. Inclusion in emissions trading opens up methods of reducing CO₂ with lower avoidance costs because higher prices for fossil fuels provide an incentive to buy vehicles which use alternative propulsion methods and fuels and to change to other methods of transport **and** – unlike CO₂-limits for new vehicles – **involve the entire vehicle population in CO₂ reduction** by influencing mileage.

CO₂-limits for heavy duty vehicles should only apply – if at all – to the whole vehicle and on no account exclusively to the engines. Regulations restricted to combustion engines only result in additional costs without any notable reduction in CO₂ because aerodynamics and weight have a major influence on a vehicle's overall emissions [Road Vehicle Directive (EU) 2015/719, see [cepPolicyBrief](#)]. Thus CO₂-limits for the whole vehicle allow vehicle manufacturers the freedom to develop the technically and economically most favourable methods of CO₂ reduction. The certification of CO₂ emissions from lorries and buses based on the simulation instrument VECTO, offers buyers the necessary information for making an environmentally-aware choice of vehicle.

Legal Assessment

Legislative Competency

Unproblematic. The EU is empowered to issue environmental measures to protect the climate and control air pollution (Art. 192 TFEU). In addition, EU-wide standard rules on vehicle emissions and fuel consumption ensure the functioning of the internal market (Art. 114 TFEU).

Subsidiarity

EU-wide standard rules on vehicle emissions can only be adopted at EU level. A further assessment is not possible until concrete proposals have been submitted by the Commission.

Conclusion

The reduction of CO₂ emissions and air pollution caused by transport is appropriate. The measures proposed by the European Commission are largely unsuitable for reducing CO₂ emissions and air pollution caused by transport in a manner which is "effective and ensures technology neutrality". With the exception of a distance and emissions based toll, however, market-based instruments for internalising external costs are lacking. The existing Emissions Trading System EU ETS should be extended to include the transport sector. Tightening the CO₂-limits for cars and vans quickly comes up against technical limitations and gives rise to high CO₂ avoidance costs. Upstream emissions trading in transport is preferable to CO₂-limits because it avoids the rebound effect and involves the entire vehicle population in CO₂ reduction. CO₂-limits for lorries should only apply – if at all – to the whole vehicle.